Table 4: **Gag**

	MAb ID	HXB2 Location	Author's Location	Sequence	Neutralizing	Immunogen	Species (Isotype)
133	183-H12-5C	Gag( )	p24( )		no		murine(IgG1)

Donor: Bruce Chesebro and Kathy Wehrly, Rocky Mountain Laboratories, Hamilton, Montana
References: [Chesebro (1992), Toohey (1995), Wehrly & Chesebro(1997)]

- 183-H12-5C: Cross-reacts with HIV1 and HIV-2 p24, and SIV p27
- 183-H12-5C: Used as antigen capture reagent for p24 ELISA [Chesebro (1992), Toohey (1995)]
- 183-H12-5C: Cross-reacts with HIV1 and HIV-2 p24, and SIV p27 [Wehrly & Chesebro(1997)]
- 183-H12-5C: NIH AIDS Research and Reference Reagent Program: 3537

134 241-D — Gag( ) — p24( ) — no — human(IgG1λ)

Donor: Susan Zolla-Pazner (Zollas01@mcrcr6.med.nyu) (NYU Med. Center)
References: [Gorny (1989), Tyler (1990), Robinson (1991)]

- 241-D: An antibody by this name is available in the NIH AIDS Research and Reference Reagent Program, and they refer to the papers: [Gorny (1989), Tyler (1990), Robinson (1991)], but no p24 MAb by this name is discussed in these papers
- 241-D: MH AIDS Research and Reference Reagent program: 1244

135 2A6 — Gag( ) — p17( ) — ( )

Donor: A. O. Arthur, Frederick Cancer Research and Development Center, Frederick, MD
References: [Pincus (1998)]

- 2A6: Part of a panel of 17 MAbs used as controls testing for the dual specificity of MAb G11H3 for both p17 and mycoplasma [Pincus (1998)]

136 5E2.A3k — Gag(dis p24 1–158) — p24(dis 1–158 SF2) — no — murine(IgG1)

Donor: Biodesign International, Kennebunk, Maine, USA
References: [Hochleitner (2000a)]

- 5E2.A3k: The Ab binding site was studied with epitope excision (protein is bound in native conformation to immobilized MAb, then digested with proteolytic enzymes) and extraction (protein is digested then allowed to react with Ab), followed by mass spectroscopy, as well as lysine modification – the epitope is discontinuous, but involves the highly conserved N-term proline, and the antibody recognizes SIVs and HIV-2 as well as HIV-1 p24 [Hochleitner (2000a)]

137 71–31 — Gag( ) — p24( ) — no — human(IgG1λ)

References: [Gorny (1989), Robinson (1990b), Robinson (1991), Spear (1993), Gorny (1997), Gorny (1998), Bandres (1998)]

- 71–31: Did not enhance HIV-1 IIIB infection [Robinson (1990b)]
- 71–31: No enhancing or neutralizing activity [Robinson (1991)]

- 71–31: Did not mediate deposition of complement component C3 on HIV infected cells [Spear (1993)]
- 71–31: Included as a negative control in studies that demonstrate that CXCR4 can bind to gp120 in the absence of CD4-gp120 interactions, and that this binding can be enhanced by Env deglycosylation [Bandres (1998)]
- 71–31: NIH AIDS Research and Reference Reagent Program: 530

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138 91–6 Gag( ) p24(121–240 IIIB) no HIV-1 infection human(IgG1λ)

References: [Gorny (1989), Robinson (1990b)]

- 91–6: No enhancing activity for HIV-1 IIIB [Robinson (1990b)]
- 91–6: NIH AIDS Research and Reference Reagent Program: 1239

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139 98–4.3 Gag( ) p24( ) no HIV-1 infection human(IgG1λ)

References: [Robinson (1991)]

- 98–4.3: No enhancing or neutralizing activity [Robinson (1991)]

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140 98–4.9 Gag( ) p24( ) no HIV-1 infection murine(IgG3λ)

References: [Gorny (1989)]

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141 AC2 Gag(dis) p7(dis) no Vaccine murine(IgG)

Vaccine: *Vector/type:* protein *HIV component:* NCp7

References: [Tanchou (1995)]

- AC2: Binds NCp7 independent of Zn fingers, does not react with NCp15 [Tanchou (1995)]

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142 anti-p24 Gag( ) p24( ) Vaccine murine(IgG)

Vaccine: *Vector/type:* recombinant protein, virus-like particle *HIV component:* Gag, Pol, Nef, gp120

Donor: Intracel Co

References: [Buonaguro (2001)]

- Anti-p24: HIV-1 pr55 gag-based virus-like particles (VLP) carrying Nef and Pol open reading frames, as well as gp120 of the clade A isolate 94UG018, were created using a Baculovirus expression system to package additional ORFS into the VLP – anti-V3 and anti-p24 antibodies were used to assess the expression levels and Gag and gp120-TM were found to be expressed at comparable levels on the VLP

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143 BC1071 Gag( ) p24( ) no HIV-1 infection murine( )

Donor: Aalto BioReagents

References: [Schonning (1999)]

- BC1071: The stoichiometry of MAb neutralization was tested and MAb BC1071 was used in this study for virion quantitation [Schonning (1999)]

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144 BE10 Gag(dis) p7(dis) no Vaccine murine(IgG)

Vaccine: *Vector/type:* protein *HIV component:* NCp7

References: [Tanchou (1995)]

- BE10: Binding NCp7 requires Zn fingers, does not react with NCp15, inhibits NCp7-tRNA interaction [Tanchou (1995)]

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145 CD9 Gag(dis) p7(dis) no Vaccine murine(IgG)

Vaccine: *Vector/type:* protein *HIV component:* NCp7

References: [Tanchou (1995)]

- CD9: Binds NCp7 independent of Zn fingers, does not react with NCp15 [Tanchou (1995)]

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146 CH9B2 Gag( ) p17( ) Vaccine murine(IgG1)

Vaccine: *Vector/type:* inactivated virus *Strain:* CBL-1 *HIV component:* virus

Donor: R. B. Ferns and R. S. Tedder
References: [Ferns (1987), Ferns (1989)]

- CH9B2: Reactive against p18 and p55 [Ferns (1987)]
- CH9B2: UK Medical Research Council AIDS reagent: ARP349

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147 ED8 Gag(dis) p7(dis) no Vaccine murine(IgG)

Vaccine: *Vector/type:* protein *HIV component:* NCp7

References: [Tanchou (1995)]

- ED8: Binds NCp7 independent of Zn fingers, does not react with NCp15 [Tanchou (1995)]

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148 EH12E1 Gag(dis) p24(dis) Vaccine murine(IgG1)

Vaccine: *Vector/type:* inactivated virus *Strain:* CBL-1 *HIV component:* virus

Donor: R. B. Ferns and R. S. Tedder
References: [Ferns (1987), Ferns (1989)]

- EH12E1: Reacted with p55 and p24 in WB [Ferns (1987)]
- EH12E1: UK Medical Research Council AIDS reagent: ARP313

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149 G11G1 Gag( ) p17( ) rat( )

References: [Shang (1991), Pincus (1996)]

- G11G1: Immunotoxins were generated by linking Env MAbs to ricin A – immunotoxins mediated cell killing, but only if the antigen was expressed at the cell surface – ricin-G11G1 did not mediate cell killing [Pincus (1996)]

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150 G11H3 Gag(dis) p17(dis) ( )

References: [Shang (1991), Pincus (1998)]

- G11H3: This MAb is cross-reactive between p17 and mycoplasma – this antibody binds strain specifically to the variable lipoprotein (Vlp) F of M. hyorhinis, in the region of the carboxy-terminal repeat CGGSTPTPEQGNNQGGSTPTPEQGNSQVSK – the p17 epitope is discontinuous, but p17 and Vlp F share the tetrapeptide SQVS [Pincus (1998)]

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151 human sera Gag( ) p24( ) HIV-1 infection human(IgG)

References: [Binley (1997b)]

- Retention of anti-Env antibodies and loss of anti-Gag antibodies during disease progression was studied, and suggested to be the result of the loss of T-cell help and the unique ability of Env to stimulate B cells even in a backdrop of declining CD4 cells, because of the ability of Env to bind to the CD4 molecule [Binley (1997b)]

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152 HyHIV-19 Gag(dis) p17(dis JMH1) no Vaccine murine(IgG1)

Vaccine: *Vector/type:* recombinant protein *HIV component:* p17

References: [Liu (1995), Ota (1998)]

- HyHIV-19: Does not react with p17 peptides – K_a is 3.7×10^6 M^{-1} for rec p17 – inhibited growth of HIV-1 JMH1 in MT-4 cells when added 24 hours after the initial culture [Ota (1998)]

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153 IE8G2 Gag( ) p24( ) Vaccine murine(IgG1)

Vaccine: *Vector/type:* inactivated virus *Strain:* CBL-1 *HIV component:* virus

Donor: R. B. Ferns and R. S. Tedder

References: [Ferns (1987), Ferns (1989)]

- IE8G2: Reacted with both p55 and p24 – broadly reactive – showed less than 75% homologous inhibition [Ferns (1987)]
- IE8G2: UK Medical Research Council AIDS reagent: ARP347

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154 LH-104-A Gag(dis 284–289 + 351–356) p24(dis BRU) DIRQGP + QGVGGP no Vaccine murine(IgG1κ)

Vaccine: *Vector/type:* peptide *HIV component:* p24

References: [Haaheim (1991)]

- LF-104-A: A 104 amino acid peptide was used to immunize mice – hexapeptide scans revealed two reactive p24 peptides – cross-competition studies indicated the region 270–286 [Haaheim (1991)]
- LH-104-A: UK Medical Research Council AIDS reagent: ARP307

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155 LH-104-C Gag(dis 288–293 + 351–356) p24(dis BRU) GPKEPF + QGVGGP no Vaccine murine(IgG3κ)

Vaccine: *Vector/type:* peptide *HIV component:* p24

References: [Haaheim (1991)]

- LF-104-C: A 104 amino acid peptide was used to immunize mice – hexapeptide scans revealed two reactive p24 peptides – cross-competition studies indicated the region 351–373 [Haaheim (1991)]

- LH-104-C: UK Medical Research Council AIDS reagent: ARP309

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156 polyclonal Gag( ) Gag(LAI) Vaccine murine( )

Vaccine: *Vector/type:* DNA prime with recombinant protein boost *Strain:* LAI *HIV component:* Gag, Tat, Nef *Stimulatory Agents:* IL18

References: [Billaut-Mulot (2001)]

- DNA vaccinated BALB/c mice primed and boosted with a multiepitopic vaccine with IL18 showed lymphoproliferative and CTL responses – co-administration of IL18 increased T-cell responses but decreased anti-HIV antibody levels

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157 polyclonal Gag( ) p24(SF2) Vaccine murine( )

Vaccine: *Vector/type:* recombinant protein *Strain:* SF2 *HIV component:* gp120, p24 *Stimulatory Agents:* PLG+MF59 microparticles

References: [O'Hagan (2000)]

- Microparticles were used as an adjuvant for entrapped HIV-1 gp120 and induced strong serum IgG responses in mice – polylactide co-glycolide polymer (PLG) microparticles in combination with MF59 had the highest Ab response and also induced p24 specific CTL [O'Hagan (2000)]

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158 polyclonal Gag( ) Gag(SF2) Vaccine mouse, guinea pig, macaque( )

Vaccine: *Vector/type:* DNA, recombinant protein *Strain:* SF2 *HIV component:* p55 *Stimulatory Agents:* PLG microparticles, aluminum phosphate, MF-59

References: [O'Hagan (2001)]

- DNA vaccines of codon-optimized Env and Gag genes driven by CMV promotors absorbed on to PLG microparticles were more effective than naked DNA at eliciting strong Ab responses (more rapid, higher titer, more stable), comparable to gp120 in MF-59 [O'Hagan (2001)]

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159 polyclonal Gag( ) p55( ) no Vaccine mouse( )

Vaccine: *Vector/type:* recombinant protein, virus-like particle *Strain:* LAI *HIV component:* V3, CD4BS, p55

References: [Truong (1996)]

- Antibodies raised against recombinant anti-p55 virus-like particles with the p24 region 196–226 deleted, bearing inserts of either the V3 or the CD4BS regions of gp120 were studied – no neutralizing responses, weak Env and strong Gag responses were elicited – the major homology region (MHR) and proximal regions were found to be required for capsid assembly [Truong (1996)]

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160 polyclonal Gag( ) p24( ) no Vaccine rat( )

Vaccine: *Vector/type:* gp120 depleted whole killed virus *Strain:* HZ321 (subtype A env, subtype G gag) *HIV component:* whole virus *Stimulatory Agents:* CpG, Freund's adjuvant

References: [Moss (2000)]

- Lewis rats co-immunized with HIV-1 antigen in Freund's and with immunostimulatory sequences CpG stimulated increased IFNγ expressing CD4+ and CD8+ T cells and anti-p24 antibodies relative to antigen in Freund's without CpG

161	V7–8	Gag( ) p24( )	no	HIV-1 infection	murine(IgG3κ)

References: [Robinson (1990b), Montefiori (1991)]

- V7–8: Did not enhance HIV-1 IIIB infection [Robinson (1990b)]
- V7–8: Reacted with HIV-1IIIB, RF, and MN [Montefiori (1991)]
- V7–8: NIH AIDS Research and Reference Reagent Program: 381